These news items apply to 4.1bsd tapes from 1-124, made between May 19 and September 1, 1981. The critical fixes that you should make sure you have are:

```
Recompile Pascal interpreter, distributed binary is bad
Run MAKE MODES in /usr/src/cmd to set set-user-id bits
Fix problem in /etc/rc
Fix bug in clock code in system which causes time drift
```

Other important fixes depend on having or using hardware or software:

```
Fix to lost interrupt handling
   rk disks
                         Fix to interleaved swap file
   rk disks
                         Fix to timecut handling
tm tapes
                 #11
                         Fix to machine check printout code
                 #13
   11/750's
                         Fix to system makefile dependencies to be more truthful
                 #18
   sys makes
                         Fix to input handling to work without pseudo-device bk
                 #17
adh & dz's
                         Fix to vadvise.h after incremental 4.0->4.1 upgrades
                 #22
   4.0 -> 4.1
                         Fix to /etc/termcap description of vt100's
                 #23
   vt100
                         Fix to handling of correctible data errors
                 #24
    ht tapes
                         Fix to enable bad sector handling code
                 #25
hp disks
                         Fix to error print inserting missing argument
                 #28
- tm tapes
```

Other fixes are about documentation:

```
#1 a typo in "Changes in the kernel in 4.1bsd"
#2 sh(1) use of # as a comment character
#15 dz optioning
#19 typo's in "Installing and operating 4.1bsd"
#20 corrects a typo in rc(8)
#21 misleading contents of file /etc/motd
#31 csh(1) undocumented variable histchars
```

## The remaining fixes are:

```
correcting a problem with pc(1) and sdb(1) for early tapes

correcting a typo in /sys/sys/Locore.c

making /sys/stand/rk.c more consistent

removing a spurios return from dz.c

fixing a latent bug in lp.c

fixing a bug in the lisp interpreter

fixing a bug in the uucp makefile

fixing a bug in /usr/src/cmd/MAKE

noting a bug in getty.c
```

```
News-item-number: 1
Date: 2 Jun 1981 2211-PDT (Tuesday)
From: wnj
To: 4bsd-bugs
Subject: FIX: to 'changes in the kernel'
Page 22
    the structure element "ui_flag" should really be "ui_flags"
News-item-number: 2
Date: 22 Jun 1981 2117-PDT (Monday)
From: ucsbcsl!eggert
To: ucbvax!4bsd-bugs
Subject: FIX: sh documentation
    Nowhere in the documentation for the Bourne shell is mentioned
    the fact that Berkeley has made '#' a comment character.
In fact, this change was made at Bell Laboratories and picked up by
          This change will be reflected in the next printing of the manual.
(Note: in 4.1bsd shell scripts are directly executable if they
begin with a line
         #! /bin/sh
(for shell scripts written for sh(1)) or with a line
         #! /bin/csh
(for shell scripts written for csh(1).) You must also set the execute
bit on a shell script:
         chmod +x scriptfilename
News-item-number: 3
Date: 10 Jul 1981 1725-PDT (Friday)
From: wnj
To: 4bsd-bugs
Subject: FIX: to /usr/src/cmd/pc0/yyget.c for pascal
a bug which prevented multi-file pascal programs from being
debugged with sdb.
                  ifdef PC
```

```
To install these changes:
    # cd /usr/src/cmd/pc0
      ed yyget.c
    << apply charges>>>
      make
      make install
These changes were applied to all but the very earliest 4.1bsd tapes
News-item-number: 4
Date: 14 Jul 1981 2014-PDT (Tuesday)
From: dmr
To: wnj
Subject: FIX: declaration of bcopy() in Loccre.c
    Here's a bummer. The declaration of bcopy in Locore.c has the
    to and from args reversed. I used it as documentation and lost.
The correct definition of bcopy() would be:
    bcopy(from, to, count) caddr_t from, to; unsigned count; { ; }
This change is wholly cosmetic; it does not affect the compiled
kernel code.
News-item-number: 5
Date: 25 Jul 1981 2234-PDT (Saturday)
From: wnj
To: 4bsd-bugs
Subject: FIX: /sys/stand/rk.c made more consistent
The driver more consistent, although it doesn't matter in practice
                                  81/03/22
                          4.3
                 rk.c
                                  81/07/25
    56c56
         com = RK_CDTi((ubinfo>>16)&Cx3C)!RK_GO;
         com = RK_CDT|((ubinfo>>8)&0x300)|RK_GO;
This was applied to tapes >= 88.
News-item-number: 6
Date: 25 Jul 1981 2141-PDT (Saturday)
From: wnj
To: 4bsd-bugs
Subject: FIX: the following removes a gratuitous return statement
from the dz driver
                          4.26
                                  81/05/29
                 dz.c
                                  81/07/25
                 dz.c
    143d142
         return (1);
It was applied to tapes >= 88.
```

News-item-number: 7

Date: 25 Jul 1981 2136-PDT (Saturday)

```
From: wnj
To: 4bsd-bugs
Subject: FIX: to /sys/dev/lp.c
```

The following fixes ipprobe() to be declared to return a value.

The old version worked by the grace of the way the generated code was laid out. Lint didn't catch this one:

```
1c1
</* lp.c 4.19 81/07/09 */

> /* lp.c 4.20 81/07/25 */
90a91
> return (1);
```

This was fixed on tapes >= 88

```
News-item-number: 8
```

Date: 25 Jul 1981 2233-PDT (Saturday)

From: wnj To: 4bsd-bug

Subject: IMPORTANT FIX: rk.c lost interrupt handling

The following change to rk.c fixes a bug which prevented lost interrupt resets from working properly:

```
668c668

for (unit = 0; unit < NHK; unit++) {

for (unit = 0; unit < NRK; unit++) {

671c671

</pre>
if (ui->ui_alive == 0)
if (ui->ui_alive == 0 || ui->ui_mi != um)
```

This has been applied to tapes >= 88.

```
News-item-number: 9
Date: 25 Jul 1981 2127-PDT (Saturday)
```

From: wnj To: 4bsd-bugs

Subject: IMPORTANT FIX: swaphkhk.c typo prevented hk1b from being usable

The following change to /sys/dev/swaphkhk.c

```
24c24

< makedev(3, 0), 0, /* hk1b */

> makedev(3, 9), 0, /* hk1b */
```

corrects a typo so that the interleaved swap area will be properly found.

This was fixed on tapes >= 88.

```
News-item-number: 10
Date: 26 Jul 1981 1220-PDT (Sunday)
From: CSVAX:jkf
To: lisp-composers
Subject: FIX: 136.3 to (go tag)
Cc: 4bsd-bugs
```

oc. Tous

Bug fix for Lisp V36

```
Fix #: 136.3
File affected: fex1.c
Symptom:
    If a go tag was undefined in the first prog found, lisp would loop.
    For example, this would fail: (def foo (lambda nil (prog nil (go a))))
     *** in file fex1.c, function Nprog add the one line marked by a (+)
                          /* label not found in this prog, must
                           * go up to higher prog
                          errp = Popframe();
                                                 /* go to next frame */
                          Inonlocalgo(C_GO,lispretval,ril);
                          /* NOT REACHED */
         case C_INITIAL: break;
News-item-number: 11
Date: 29 Jul 1981 1746-PDT (Wednesday)
From: decvax!sytekvax!sam
To: 4bsd-bugs
Subject: IMPORTANT FIX: bug in tm.c timeout
    There is an error in the formula for calculating the timeout
    on tape operations that causes operations taking longer than
    a minute to complete to occasionally fail.
    The fix is to change line 431 to be
         sc->sc\_timo = imin(imax(10*(int)-bp->b\_repcnt,60),5*60);
Here is the fix as a diff:
                                  81/07/09
    < /*
                  tm.c
                                  81/08/30
                  tm.c
    431c431,432
                          sc->sc\_timo = imin(imax(10*(int)bp->b\_repcnt,60),5*60);
                          sc->sc_timo =
                              imin(imax(10*(int)-bp->b_repcnt,60),5*60);
News-item-number: 12
Date: 7 Aug 1981 1958-PDT (Friday)
From: ESVAX:asa
To: r:4bsd-bugs
Subject: FIX: to uucp makefile
    The makefile for uucp, on the install option, does the chmod first
    then the chown. With 4.1, the chown resets the setuid bit. The
    chmod and chown should be in the opposite crder.
This can be fixed by moving the chmod 4111 lines to be after
the chown's. The following editor script accomplishes this (to
the file /usr/src/cmd/uucp/makefile):
    ed makefile
    g/chown/-s/~\tchmod/%\tchmod/
   g/~%/.m+\
```

5/%//

Q

Here type a tab instead of a \t.

Another way of solving this problem is to do cd /usr/src/cmd
DESTDIR=/; export DESTDIR;
MAKE MODES

after installing uucp to restore the setuid bits.

News-item-number: 13

Date: 11 Aug 1981 1812-PDT (Tuesday)

From: menlo70!sytek!sytekvax:sam

To: 4bsd-bugs

Subject: IMPORTANT FIX: machine check on 750's

The system machine check printf has a type in it: sys/machdep.c 680c680

- oprintf("\tva %x errpc %x mdr %x smr %x tbgpar %x cacherr %x\n",
- > printf("\tva %x errpc %x mdr %x smr %x rdtimo %x tbgpar %x cacherr %x\n",

This should be applied to all 4bsd systems which run on 11/750's.

News-item-number: 14

Date: 13 Aug 1981 1220-PDT (Thursday)

From: CSVAX:mark

To: 4bsd-bugs

Subject: FIX: DESTDIR setting in /usr/src/cmd/MAKE seems dumb

It is currently set to /4bsd; a DESTDIR of / would seem to be better.

Perhaps; the motivation for /4bsd was to avoid accidental reinstallations. We have changed the initialization to be / for future releases.

News-item-number: 15

Date: 13 Aug 1981 1220-PDT (Thursday)

From: CSVAX:mark

To: 4bsd-bugs

Subject: FIX: confusing documentation of dz optioning

In dz.c, a line setting HUPCLS in dzopen was commented out. In some environments, you want a hangup when you log out. (We have a develoon dataswitch — I think this is what the comp ctr has — and if you don't hang up it ties up the port.) There should be a pointer to this line of code, and the flags option for dz's in config, in the documentation, we tore our hair out over this one for a while.

Well, page 20 of the setup/installation instructions (Section 3.2.3) says "To learn about the format of this file, start by reading config(8) looking at the manual pages in section 4 of the UNIX manual for the devices you have and looking at the configuration files in the /sys/conf (directory sic.).

Then the dz(4) manual page in the second paragraph says

Bit i of flags may be specified for a dz to say that a line is not properly connected and that the line should be treated as hard-wired

with carrier always present. Thus specifying 'flags 0x04" in the specification of dz0 would cause line tty02 to be treated in this way.

Sorry if you missed this; the pointer could be more explicit.

As to the question about HUPCLS, the choice here is simply whether the STANDARD SETTING is to be hangup on close. My feeling is that if you have a DEVELCON you should create a getty table for it which has getty set HUPCLS, rather than modifying dz.c.

News-item-number: 16

Date: 13 Aug 1981 1220-PDT (Thursday)

From: CSVAX:mark To: 4bsd-bugs

Subject: FIX: getty.c bug affecting upper case only terminals

In getty.c, near line 300 a warning from cc should not be ignored. There needs to be a \* in front of this line. This will only affect upper case terminals.

Change line 268 of getty.c from np = tolower(\*np);

to

\*np = tolower(\*np);

News-item-number: 17

Date: 13 Aug 1981 1220-PDT (Thursday)

From: wnj

To: 4bsd-bugs

Subject: FIX: dh and dz don't work without bk line discipline

"After I rebuilt the system the dh and dz lines did not work on input as a large number of characters had to be typed before any were echoed. They worked only after I defined the bk line discipline: pseudo-device bk in the system configuration."

The code was changed for 4.1bsd to use the siles only with the bk line discipline, but cannot easily be made to work for dh's. We suggest the following change, affecting /sys/sys/clock.c, /sys/dev/dh.c and /sys/dev/dz.c, which causes the system to always use the silos:

```
% diff dh.c.old dh.c
```

```
4.37
                         81/07/10
                         81/08/31
                 4.38
                 DH_IE
                         (DH_TEDH_RIE)
ひにロコンにつ
```

```
% diff dc.c.old dz.c
1c1
                           81/07/25
                  4.28
                           81/08/31
                  4.29
         dz.c
60,62d59
< #if NBK == 0
                           (DZ_MSE|DZ_RIE|DZ_TIE)
                  DZ_IEN
 #define
  #else
64d60
Also remove, from /sys/sys/clock.c, the line
and its matching #endif, leaving a group of lines:
                 Drain siles.
    #if NDH > 0
              s = spl5(); dhtimer(); splx(s);
    #endif
    #if NDZ > 0
                = spl5(); dztimer(); splx(s);
    #endif
               * If idling and processes are waiting to swap in,
               * check on them.
```

It will then no longer be necessary to include the bk line discipline to get these drivers to work.

The last paragraph of description in dh(4) and dz(4) should be removed after making these changes, as the driver then always polls each 1/60'th of a second. The last bug in the BUGS section of bk(4) applies after this fix to dh(4) and dz(4) all the time, and should be changed to read:

The system uses input siles on ... and moved to the bugs section of dh(4) and dz(4).

```
News-item-number: 18
Date: 13 Aug 1981 1220-PDT (Thursday)
From: wnj
To: 4bsd-bugs
Subject: IMPORTANT FIX: system construction procedures
```

"When we did a config, a make depend, and a make, it didn't recompile autoconf.c, so it tried to reference setconf which didn't exist. I had to remove the file autoconf.o and remake."

"In the makefile for the kernel, assym.s depends on user.h. However, user.h also depends on assym.s creating a circular dependency. [Ed. — there is, strictly, a circular dependency, but in practice assym.s does not depend on user.h since the fields that do are in the part of user.h that should not be changed.] This causes excessive recompiles when the system is reconfigured, since it forces user.h to be touched."

"I changed the system configuration removing the cpu type VAX780 and when I recompiled I got some undefined symbols. I remade the system from scratch and then the problem went away..."

These bugs are due to inaccuracies in the skeletal system makefile. A number of bugs of this kind existed because the dependencies shown in the skeletal makefile were not complete. Some of the dependencies between files cannot be determined automatically (by make depend) and these were the ones that were wrong.

The circular dependency of the user.h and assym.s files can be corrected by changing the lines:

assym.s: ../h/param.h ../h/pte.h ../h/buf.h ../h/vmparam.h ../h/vmmeter.h \
../h/dir.h ../h/user.h ../h/cmap.h ../h/map.h ../h/ubavar.h ../h/proc.h
by deleting the ../h/user.h from the second line, giving:

assym.s: ../h/param.h ../h/pte.h ../h/buf.h ../h/vmparam.h ../h/vmmeter.h \
../h/dir.h ../h/cmap.h ../h/map.h ../h/ubavar.h ../h/proc.h
The following diff of the old and new versions of /sys/conf/makefile
shows corrections for the rest of the inaccuracies.

```
% diff makefile.bak makefile
13a14,16
> # N.B.: NO DEPENDENCIES ON FOLLOWING FLAGS ARE VISIBLE TO MAKEFILE
> # IF YOU CHANGE THE DEFINITION OF ANY OF THESE RECOMPILE EVERYTHING
> #
54a58,64
> # the following is necessary because autoconf.o depends on #if GENERIC
> autoconf.o: makefile
> # the following are necessary because the files depend on the types of
> # vax cpu's included in the system configuration
> clock.o machdep.o autoconf.o conf.o cons.o fip.o mba.o uba.o vaxcpu.o: makefile
```

News-item-number: 19
Date: 14 Aug 1981 1544-PDT (Friday)
From: CSVAX:wnj
To: r:4bsd-bugs
Subject: FIX: "Installing and operating"

Page 12.

The SI/CDC 9766 line in the table should read:

SI/CDC 9766

size=145650; name=hp0h; n=304;

The name was previously given incorrectly as hp0g.

Page 25.

The names of ttys have changed: tty0 in 4BSD is now tty00.

Documentation doesn't warn of that.

Page 30.

The document should say to use

>>> B/1 XXA0

where XX is DM for RK07, and DB for RP06, RM03, RM05, RP07 and RM80.

Before it said to use DR for all the RM03, et. al. but this was incorrect.

Page 19:

.There is a typo in the first sentence of section 3.2.2 that says the sources for the device drivers are in /dev; they are in /sys/dev.

News-item-number: 20
Date: 14 Aug 1981 1136-PDT (Friday)
From: ucscc!haynes
To: ucbvax!4bsd-bugs
Subject: FIX: rc(8) and reboots

Section RC(8) sez it's necessary to reboot after changing the root file system. I believe this is no longer true, according to the next page REBOOT(8).

J.H.

This is true; reboots are no longer necessary. The manual page rc(8) will be corrected for the next release.

On a similar note, a number of early 4.1bsd manuals were distributed with the old (4.0bsd) crash(8) manual page. You should print off the newer manual page for your manual if your crash(8) page is not dated 4/1/81.

One other nit: the crash(8) manual page refers to the symbol dumpstack which no longer appears in the system namelist. The system uses the restart parameter block page to do crash dumps in; the base of the dumpstack is thus always "\_rpb+508".

News-item-number: 21

Date: 14 Aug 1981 1722-PDT (Friday)

From: wnj To: 4bsd-bugs

Subject: FIX: /etc/motd misleading

/etc/motd in the distribution system incorrectly indicated that the system was "(beta-4bsd revised april 1981)".

News-item-number: 22

Date: 18 Aug 1981 1000-PDT (Tuesday)

From: z@CCA-UNIX

To: csvax.4bsd-bugs at Berkeley

Subject: IMPORTANT FIX: vadvise.h (after updating 4.0->4.1)

Vadvise.h should have an entry in its header describing the function of VA\_SEQL, and the comment for VA\_ANOM should be updated to delete "sequential".

This bug applies if you convert from 4.0bsd to 4.1bsd by the update path since the file <vadvise.h> was accidentally omitted from the set of files that need to be installed. Here is the correct version of /usr/include/vadvise.h:

#define VA\_NORMO #define VA\_ANOM1 #define VA\_SEQL2

News-item-number: 23

Date: 19 Aug 1981 1550-PDT (Wednesday)

From: JOE@WASHINGTON

Subject: IMPORTANT FIX: VT100 bugs To: arpavax.4bsd-bugs at BERKELEY

Various problems are surfacing on display programs using VT100s.

1) vi — When you insert, delete a line, vi tries to use the Set Scrolling Region command and messes up. What gets displayed on the screen is "i%2;24r" at the left edge of the line in question. I assume what is happening is that the terminal is eating the <esc>], then finding this bizarre sequence following it. This bug did not

appear until I installed the update to beta4.1bsd.

2) games - various games seem not to work on VT100s. Aliens, mille all screw up in their display updating at some point or other. Rogue, however, does work.

The problem is that a new version of the vt100 description was accidetally released (we don't have vt100's so didn't notice). The old version is still in the file /etc/termcap; to make it the standard version edit the file and find the line containing "ovt100". Delete the preceding definition of "vt100" and change the "ovt100" to be "vt100" by deleting the letter "o". This will solve these problems.

This fix should be applied on all systems.

News-item-number: 24
Date: 21 Aug 1981 1155-PDT (Friday)
From: decvax!shannon
To: ucbvax!4bsd-bugs
Subject: IMPORTANT FIX: bug in ht.c

At line 304 in /sys/dev/ht.c, the "else" should be deleted, leaving the following code fragment:

```
if (bp == &rhtbuf[HTUNIT(bp->b_dev)]) {
    er &= ~HTER_FCE;
    mbs &= ~(MBSR_DTABT|MBSR_MBEXC);
}
if (bp->b_flags & B_READ && ds & HTDS_PES)
    er &= ~(HTER_CSITM|HTER_CORCRC);
```

This allows tapes with correctable data errors to be read. Examination of the V7 ht.c driver shows this change is correct.

This fix should be applied to all 4.1bsd kernels.

News-item-number: 25
Date: 25 Aug 1981 1804-PDT (Tuesday)

From: Mike.Accetta@CMU-10A To: ARPAVAX.bugs at BERKELEY

Subject: IMPORTANT FIX: hp.c bad sector forwarding code

Has the bad sector forwarding code in the hp driver ever been successfully executed? Our copy defines HPER2\_BSE as one of the HPER2\_HARD errors which quite effectively prevents any bad sector forwarding code from ever being executed. Is this intentional??

This is an editing error which occurred when two variants of the driver were manually merged. The code has been tested and does work. To allow it to be reached line 112 of /sys/h/hpreg.h should be changed from #define HPER2\_HARD (HPER2\_BSE|HPER2\_OPE)

to

#define HI

HPER2 HARD

(HPER2 OPE)

News-item-number: 26

Date: 26 Aug 1981 1918-PDT (Wednesday)

From: mckusick

To: 4b3d-bugs@berkeley

Subject: CRITICAL FIX: to px interpreter

The distributed Pascal interpreter was not properly recompiled

before being distributed. This results in almost no pi'ed programs running. (The compiler "pc" is not affected)

The fix to this is that all sites must:

cd /usr/src/cmd/px

make install

Tapes 125 and up will not need this fix.

News-item-number: 27

Date: 26 Aug 1981 1638-PDT (Wednesday)

From: mosher

To: bugs

Subject: CRITICAL FIX: missing setuid bits

Some of the tapes made before tape 121 accidentally had the set—user—id bits cleared on files such as /bin/su, /bin/mkdir, etc. This causes some commands (such as su and mkdir) to work only for the super—user.

The set-user-id modes can be restored by using the MAKE command of /usr/src/cmd:

# cd /usr/src/cmd

# DESTDIR=/; export DESTDIR

# MAKE MODES

This should be done by all sites running tapes <= 121 (it can do no harm).

Note: if the super-user is using csh(1) rather than sh(1) as shell, then the second command should be:

# setenv DESTDIR /

rather than the commands involving "export".

News-item-number: 28

Date: 26 Aug 1981 1150-PDT (Wednesday)

From: mosher

To: wnj

Subject: IMPORTANT FIX: /sys/dev/tm.c printf missing argument

The printf in the routine tmtimer() is missing an argument; it now reads printf("te%d: lost interrupt\n");

but should read

printf("te%d: lost interrupt\n", TEUNIT(dev));

News-item-number: 29

Date: 27 Aug 1981 0742-PDT (Thursday)

From: CSVAX:mark
To: 4bsd-bugs sklower

Subject: CRITICAL FIX: bug fix for /etc/rc

The following line should be added to /etc/rc: PATH=/bin:/usr/bin

It can be added after the first line. This fixes a serious problem which will not be described here, and should be applied to all systems.

News-item-number: 30

Date: 28 Aug 1981 1426-PDT (Friday)

From: reeves
To: 4bsd-bugs

Subject: CRITICAL FIX: clock problems caused by high IPL

The softclock routine of /sys/sys/clock.c always runs at ipl 17 (spl7) due to the following bug. Change lines 190 to 192 to be:

The bug was obviously breaking out of the loop at spl7.

This bug can cause time drift on busy machines and other nasties such as silo overflows and device timecuts.

It should be retrofitted to all 4.1bsd systems.

News-item-number: 31
Date: 30 August 1981 1517-PST (Sunday)
From: wnj
To: 4bsd-bugs
Subject: FIX: csh documentation

The shell variable histchars is undocumented

The following description of this variable will be included in the next release of the system:

histchars

If this variable is set then the first character of its string value is used as the history substitution character, replacing the default character!, and the second character of its value replaces the character ^ in quick substitutions.

error("pass-through rcode %d", rcode);

to

nevs

dm

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